

IN THE CLAIMS:

1 – 31. (Canceled)

32. (New) A method of assigning active packets belonging to a class within a first class of service (CoS) of active Internet Protocol traffic in a first network to different QoS treatments in a second network comprising:

identifying said class within said first class CoS, wherein said first CoS is one of interactive application class, bulk data transfer application class, streaming application class, and transactional application class;

identifying a pre-selected set of IP packet attributes from a plurality of packet attributes, wherein said plurality of attributes are packet size, variance, root mean square, time series, source IP address, source IP port, destination IP address and destination IP port;

conduction training sessions on training IP traffic in said second network in order to obtain a corpus of data from which to get statistics to create a second CoS, wherein said second CoS is based on packet level characteristics, flow-level statistics, connection-level statistics, inter-flow/connection features, and multi-flow characteristics;

using said second CoS to create a QoS rule from a set of QoS rules, wherein QoS rules are IP source address and IP source port pairs from training IP traffic from said second network assigned to a class within said second CoS;

assigning said active packets from said first network to a QoS treatment from a set of QoS treatments in said second network, wherein said QoS treatment is the assignment of said QoS rule from a set of QoS rules from said second network to said active packets from said first network.